Army Corps
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North Central Division

Great Lakes Update

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St. Lawrence Board Membership Increased

The International Joint Commission announced on February 13 that it has decided to increase the membership of the International St. Lawrence River Board of Control from eight to 10 members. By expanding the board's membership, the Commission decided to act on a recommendation of its Levels Reference Study Board to include more citizen participation from Lake Ontario and the lower St. Lawrence River. There already was one citizen member from the upper St. Lawrence River on the board.

The two new members of the board are Mayor Peter B. Yeomans of the City of Dorval, Quebec, and Dr. Frank Sciremammano, Jr., an associate professor of mechanical engineering at the Rochester Institute of Technology. As the Mayor of Dorval since 1982, Mr. Yeomans has extensive knowledge of how fluctuating water levels affect communities along the lower St. Lawrence River. He also became knowledgeable about water level issues across the Great Lakes-St. Lawrence River basin while serving as an active member and then cochair of the Citizens Advisory Committee to the Levels Reference Study.

Dr. Sciremammano has technical knowledge of the system's hydrology. In 1977, he completed his doctoral thesis on "A new method for a Long Range Forecast of the Lake Ontario Water Level" and has continued his active professional interest in Lake Ontario regulation since that time. He has also performed research for the National Oceanic and Atmospheric Administration on water level forecasting methods.

Members of International Joint Commission boards are appointed to serve in their personal and professional capacities, and not as representatives of a particular interest of geographic region. Listed in figure 1 is the current St. Lawrence Board membership.

International St. Lawrence River Board of Control

COL Richard Craig, Co-Chair (U.S. Army Corps of Engineers)	Robert Kingston, Co-Chair (Canadian Coast Guard)
Thomas Brown (New York State Department of Environmental Conservation)	André Carpentier (Quebec Ministry of Environment)
John Bartholomew (New York Power Authority)	Doug Cuthbert (Environment Canada)
John Spence (Citizen, Clayton, New York)	Marjorie Hare (Ontario Hydro)
Dr. Frank Sciremammano, Jr. (Rochester Institute of Technology)	Mayor Peter Yeomans (City of Dorval, Quebec)

Figure 1. Current Membership of the International St. Lawrence River Board of Control

Rumrunners on the St. Clair/Detroit River System

Prohibition is defined as the Period (1920-1933) during which a law forbidding the manufacture and sale of alcoholic beverages was in force in the United States. This era saw the proliferation of racketeering and mobs and the use of speakeasies, blind pigs, stills, and rumrunning to meet the demands of the Roaring 20's. It also saw an increase in law enforcement officers and anti-prohibitionists seeking to enforce the law, or have it abolished.

One of the favored ways of getting illicit liquor into the country was to transport it across the border from Canada. Since much of the US-Canadian border is along the Great Lakes and its connectors, water borne transit was the vogue. Detroit, being the largest border city, soon became a major shipping point. It was said that nearly 80 percent of the illegal liquor trade took place across the Detroit River. It was also alleged that, next to automotive manufacturing, bootlegging was the second largest industry in Detroit.

Much of the smuggling was done across the rivers and lakes under cover of night, using many types of boats, including some of the fastest speedboats of that era. In the winter, sleds, boats, and cars were used to cross the frozen waters. Other innovative methods were attempted, one of which involved using a container pulled across the river by a cable. Flashing lights and coded messages were frequently used to signal the safety, or not, of making another run. Chases, gun fights, vehicle and boat searches and raids were commonplace.

To combat the liquor smuggling, a "Prohibition Navy" was formed in Michigan, comprised of the U.S. Customs, U.S. Immigration, U.S. Border Patrol, U.S. Coast Guard, Michigan State Police, Detroit Police Department and several other law enforcement agencies. This "Navy" used a variety of vessels to patrol the waters of the Great Lakes, searching for and confiscating contraband liquor. Figure 2 shows members of the "Prohibition Navy" at work, as they confiscate liquor from a captured airplane.

The following are excerpts from an article published in the St. Clair Shores Historical Commission's, **Muskrat Tales** magazine, entitled *Rumrunning Days (A[illegible] Nights!) on Lake St. Clair.* This article, written by Cindy Bieniek, highlights many newspaper articles about the rumrunners and their amazing ingenuity. An excerpt follows:

Rumrunner Inventiveness

July 16, 1927 - Detroit Saturday Night. "It's the latest triumph of bootleggers' engineers...The secret, jealously guarded, involves a "bumper" which in 20 feet slows the racing boat to a stop as though it had four-wheel brakes...A government patrol boat, racing down the Detroit River on its rounds, had just passed. Flashlights winked on the American sho[illegible] From the Canadian side bla[illegible] shadows leaped out, shore lights reflected in tall combers at each side as speedboats cut the waves

Figure 2. Federal officers unloading whiskey from a captured airplane off Lake St. Clair.

Figure 3. The cable used in the underwater smuggling device from Peche Island to the Detroit mainland.

toward American soil. The muffled purr of powerful motors grew louder, and an agent, lolling in a canoe in what he thought would be the bootleggers' path, saw a dozen black shadows speed past him.

Another agent, lying along shore, saw the shadows race clear to the docks with no sign of slowing down. He waited for a crash, but none came; the shadows shot in between piers and when he paddled downriver a minute later, risking the bullets of liquor spies, the docks seemed deserted. The speedboats had shot into their American boathouses, huge doors closing after them shutting off all view down to the water's edge. Somehow the boats had stopped inside undamaged, and soon there came a rumble as auto trucks rolled away inland, tarpaulins covering their loads. In 10 minutes the docks were deserted.

The agents don't know how the brakes work, but they do know that the bumpers make it tough for the patrol boat."

Christmas Day, 1931 - Detroit Free Press - *Submarine Rumrunner Seized.* "An underwater rum smuggling device, discovered early Thursday, has been in operation several months...A house at the river's edge contained a motor-driven windlass which was used to draw a torpedo-like container capable of holding five cases of whisky under water from Peche Island. After each trip from the Canadian island, the container had to be towed back with a rowboat.

While this was being done early Thursday morning, the container floated near the surface and caused a ripple of water which attracted Customs Insp. Lynn, who was in a boat nearby. The rowboat occupant cast off the tow when the officer started to investigate and reached Canadian waters. In a few seconds the container was hurriedly pulled toward the house, but Insp. Lynn followed its path in the water. When he reached the house, it was deserted. The engine, cables and windlass were confiscated."

Figure 3 (from the National Archives) shows a photo of the cable used in this underwater smuggling device.

Enforcement Keeps Pace

As the rumrunners got more innovative, the "Prohibition Navy" also became more sophisticated. The next few excerpts, also from Cindy Bieniek's article, show some of the efforts to stop the bootlegging:

May 7, 1929 - Detroit Free Press - *River Guard Gains 27 Men - Will Use Outboards.* "An outboard motor fleet to operate in shallow water near shore will soon be put into service, Carey D. Ferguson (collector of customs) said. Runners in rowboats often pull into water not deep enough to float one of the larger boats and so escape the officers.

The decision of the small boat fleet was partly arrived at because Sunday night a large speedboat was captured but a rowboat powered with an outboard motor managed to make shore and its crew escaped. The incidents took place in Lake St. Clair just off the foot of East Seven-Mile road.

Officers in a government boat succeeded in catching a 30-foot speedboat carrying 125 bags of beer and two boxes of wine. The operator (a 30-year old man) was arrested. A few minutes later, a rowboat pulled away from the shore into shallow water and the man in it jumped out and waded ashore. When officers succeeded in getting the boat, it contained 25 cases of beer."

March 8, 1930 - Detroit Free Press - *Airplane Will Aid Detroit Rum Chasers.* "The Customs Border Patrol has a n airplane on observation du Operating from Selfridge Field, the confiscated pursuit type biplane does not carry a mounted gun, but the pilot is licensed to carry a revolver. Its chief purpose is to discover new bases and tricks of smugglers. Two months ago, the Border Patrol's old plane crashed in Ontario."

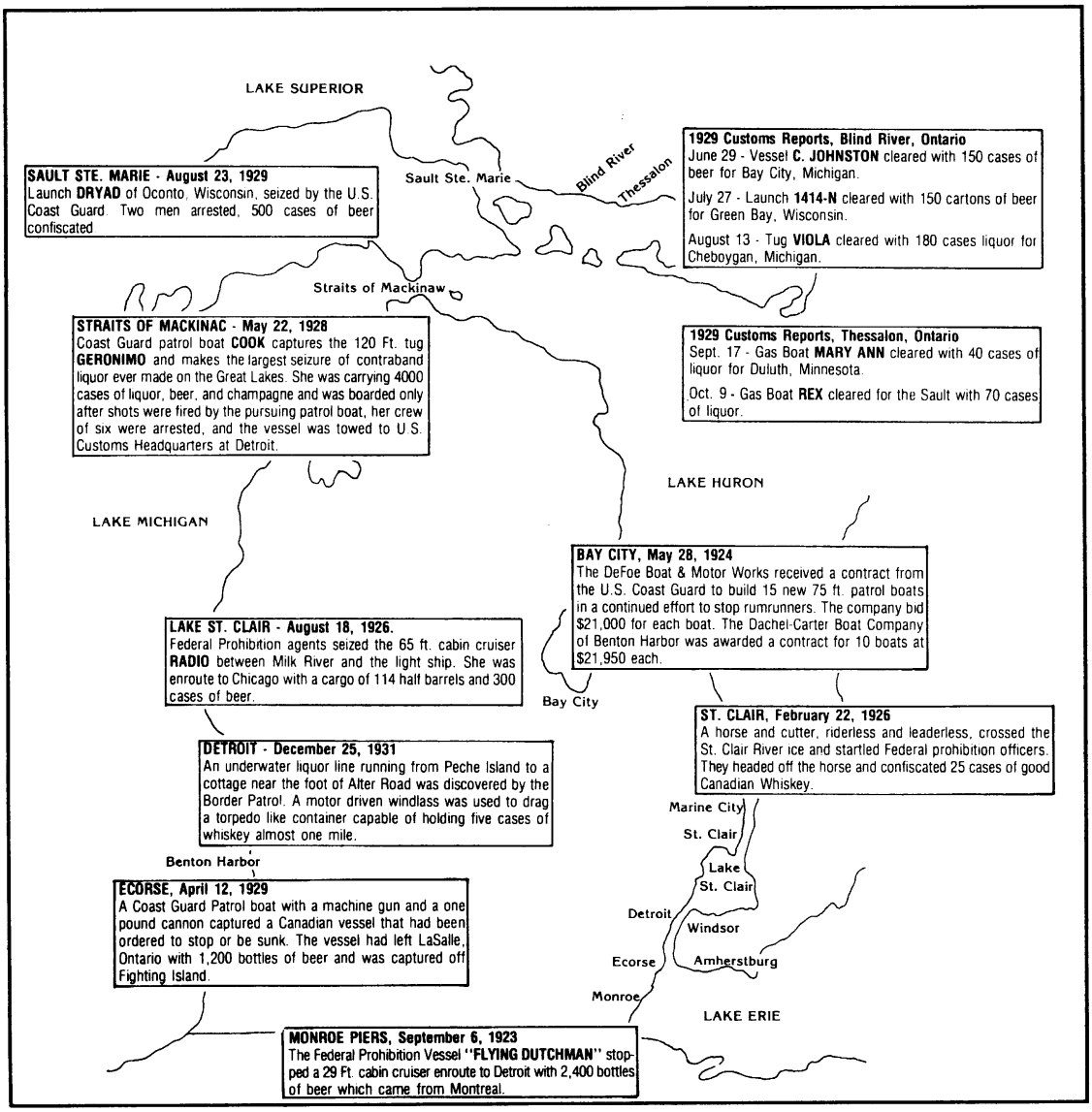

Figure 4. Additional Prohibition Sites Around the Great Lakes

The Light Side

Prohibition provided interludes to the daily activities of the local populace. Cindy Bieniek's article gives a few glimpses into how the labor market and leisure activities were affected in the following excerpts:

August 2, 1928 - *The Lexington Beer Party.* "After apprehending smugglers in Lexington, U.S. Border Patrol Chief Inspector Howard Blakemore ordered the 2,400 bottles of beer dumped off the dock. Many villagers donned bathing suits and spent the day diving."

January 11, 1930 - Duluth Labor World - *Rumrunners Strike, Win Increased Wage.* "Amherstburg, Ont. - One of the most unique strikes on record was won here last week when the crews of rumrunners, after a complete tie-up of 24 hours, secured $3 a case for beer and $15 a case for whiskey carried across the river to Detroit.

The rum runners say they work entirely on a piece-work basis, furnishing their own boats and supplies."

July 21, 1931 - Detroit Free Press - *Rum Guns Hit Church Party.* "A thousand passengers on the steamer Ste. Claire were thrown into panic on the moonlight excursion when the customs border patrol fired 40 shots at a rumrunner's speedboat which had taken refuge in the lee of the steamer. A passenger was wounded in the arm in the incident, which occurred near Peche Island at the tip of Belle Isle."

Many sites around the Great Lakes were involved with rumrunning. Figure 4, taken from a brochure from the Dossin Great lakes Museum's **Rumrunners Exhibit**, provides several brief glimpses into this colorful past.

Finally, in 1933, Prohibition came to an end.

Acknowledgments

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Do You Know?

The answer to last month's query is: The combined length of the United States and Canadian Great Lakes shoreline (including islands) is 12,000 miles.

This month's question is: If the contents of the Great Lakes were spread out over an area equal to that of the the continental United States, how deep would the resultant lake be?

(a) Up to one foot
(b) Up to three feet
(c) Up to ten feet

The answer will be provided in the next Update.

RICHARD W. CRAIG
Colonel, EN
Commanding

Table 1

Possible Storm Induced Rises (in feet) at Key Locations on the Great Lakes March 1995

	Degrees of Possibility				
	20%	10%	3%	2%	1%
LAKE SUPERIOR					
Duluth	0.9	1.1	1.3	1.5	1.7
Grand Marais	0.5	0.7	0.9	1.1	1.2
Marquette	0.7	0.8	1.0	1.2	1.3
Ontonagon	0.6	0.9	1.5	2.1	2.7
Point Iroquois	0.9	1.0	1.1	1.2	1.3
Two Harbors	0.8	1.0	1.4	1.7	2.1
LAKE MICHIGAN					
Calumet Harbor	1.5	1.8	2.1	2.4	2.6
Green Bay	1.4	1.6	1.9	2.2	2.4
Holland	0.8	0.9	1.0	1.1	1.2
Kewaunee	0.8	1.0	1.1	1.3	1.4
Ludington	0.8	0.9	1.1	1.2	1.3
Milwaukee	1.1	1.3	1.6	1.9	2.1
Port Inland	1.0	1.2	1.4	1.5	1.6
Sturgeon Bay	0.9	1.2	1.5	1.8	2.0
LAKE HURON					
Detour Village	0.5	0.6	0.7	0.8	0.9
Essexville	1.7	2.2	2.9	3.5	4.1
Harbor Beach	0.7	0.8	1.0	1.1	1.3
Harrisville	0.5	0.7	0.9	1.1	1.3
Lakeport	1.2	1.5	1.7	2.0	2.2
Mackinaw City	0.7	0.8	1.0	1.1	1.2
LAKE ST. CLAIR					
St. Clair Shores	0.7	0.8	0.9	0.9	1.0
LAKE ERIE *					
Barcelona	1.8	2.3	3.0	3.6	4.1
Buffalo	4.0	4.7	5.6	6.3	6.9
Cleveland	1.2	1.4	1.7	1.9	2.2
Erie	1.8	2.2	2.7	3.0	3.4
Fairport	0.8	0.9	1.0	1.1	1.1
Fermi Power Plant	2.2	2.5	2.9	3.1	3.4
Marblehead	1.7	1.9	2.2	2.4	2.6
Sturgeon Point	3.1	3.6	4.0	4.3	4.6
Toledo	3.0	3.4	3.8	4.1	4.4
LAKE ONTARIO					
Cape Vincent	0.8	0.9	1.1	1.3	1.4
Olcott	0.6	0.7	0.8	1.0	1.0
Oswego	0.8	1.0	1.3	1.5	1.8
Rochester	0.7	0.8	0.9	1.0	1.1

* The water surface of Lake Erie has the potential to tilt in strong winds, producing large differentials between the ends of the lake.

Note: The rises shown above, should they occur, would be in addition to the still water levels indicated on the Monthly Bulletin. Values of wave runup are not provided in this table.

Great Lakes Basin Hydrology

During the month of February precipitation on each Great Lakes basin was below average, with the exception of the Lake Superior basin which was above average. For the year to date, precipitation is about 3% above average for the entire Great Lakes basin. The net supply of water to each of the Great Lakes in February was below average. Table 2 lists February precipitation and water supply information for all of the Great Lakes.

In comparison to their long-term (1918-1994) averages, the February monthly mean water level of Lake Superior was 2 inches below average, Lakes Michigan-Huron, St. Clair, Erie and Ontario were 6, 13, 11 and 6 inches above average respectively. Shoreline residents are cautioned to be alert whenever adverse weather conditions exist, as these could cause rapid short-term rises in water levels. Should the lakes approach critically high levels, further information and advice will be provided by the Corps of Engineers.

TABLE 2
GREAT LAKES HYDROLOGY[1]

PRECIPITATION (INCHES)								
BASIN	FEBRUARY				YEAR-TO-DATE			
	1995[2]	Average (1900-1991)	Diff.	% of Average	1995[2]	Average (1900-1991)	Diff.	% of Average
Superior	1.8	1.5	0.3	120	3.4	3.4	0.0	100
Michigan-Huron	1.2	1.7	-0.5	71	3.8	3.8	0.1	100
Erie	1.3	2.1	-0.8	62	5.1	4.5	0.6	113
Ontario	1.6	2.4	-0.8	67	5.4	5.0	0.4	108
Great Lakes	1.4	1.8	-0.4	78	4.0	3.9	0.1	103

LAKE	FEBRUARY WATER SUPPLIES[3] (CFS)		FEBRUARY OUTFLOW[4] (CFS)	
	1995[2]	Average (1900-1989)	1995[2]	Average (1900-1989)
Superior	-22,000	11,000	72,000	67,000
Michigan-Huron	-37,000	88,000	174,000[5]	154,000
Erie	28,000	35,000	209,000[5]	188,000
Ontario	20,000	37,000	237,000	223,000

[1]Values (excluding averages) are based on preliminary computations.
[2]Estimated.
[3]Negative water supply denotes evaporation from lake exceeded runoff from local basin.
[4]Does not include diversions.
[5]Reflects effects of ice/weed retardation in the connecting channels.

CFS = cubic feet per second.

For Great Lakes basin technical assistance or information, please contact one of the following Corps of Engineers District Offices:

For NY, PA, and OH:
COL Walter C. Neitzke
Cdr, Buffalo District
U.S. Army Corps
of Engineers
1776 Niagara Street
Buffalo, NY 14207-3199
(716) 879-4200

For IL and IN:
LTC Robert E. Slockbower
Cdr, Chicago District
U.S. Army Corps
of Engineers
111 North Canal Street
Chicago, IL 60606-7206
(312) 353-6400

For MI, MN, and WI:
COL Randolph O. Buck
Cdr, Detroit District
U.S. Army Corps
of Engineers
P.O. Box 1027
Detroit, MI 48231-1027
(313) 226-6440 or 6441